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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/768,464	01/25/2001	Naoji Otsuka	684.3130	3950
5514	7590	05/19/2004	EXAMINER	
			NGUYEN, THINH H	
		ART UNIT		PAPER NUMBER
				2861

DATE MAILED: 05/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/768,464	OTSUKA ET AL. <i>AN</i>
	Examiner	Art Unit
	Thinh H Nguyen	2861

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on _____.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-26 and 28-30 is/are rejected.
- 7) Claim(s) 27 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date: _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date: _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. The request for a continued prosecution application (CPA) under 37 CFR 1.53(d) filed on April 14, 2004 is acknowledged. 37 CFR 1.53(d)(1) was amended to provide that the CPA must be for a design patent and the prior application of the CPA must be a design application that is complete as defined by 37 CFR 1.51(b). See *Elimination of Continued Prosecution Application Practice as to Utility and Plant Patent Applications*, final rule, 68 Fed. Reg. 32376 (May 30, 2003), 1271 Off. Gaz. Pat. Office 143 (June 24, 2003). Since a CPA of this application is not permitted under 37 CFR 1.53(d)(1), the improper request for a CPA is being treated as a request for continued examination of this application under 37 CFR 1.114.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in-

- (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or
- (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

3. Claims 1-3, 8-16, 18-23, 28-30 are rejected under 35 U.S.C. § 102(e) as being anticipated by Askeland et al. (U.S. 6,254,217)

Askeland (figs.11A-11C; col.2, line 36 – col.5, line 20) discloses every element of the instant claimed printheads comprising nozzles colors being disposed symmetrically (col.3, lines 28-31) in the scanning direction wherein recording of the ink of different colors to at least one the plurality of the secondary color subpixels (characterized by subpixels within a unit pixel area 124, col.5, line 20) within the pixel areas are formed corresponding to an order different from the order of another, wherein mask patterns according to the forward and rearward direction are used to govern the deposition of the different color inks drops having different tones and volumes to thereby provide multi-level print image (characterized by printing in the superpixel 124, ink dot in the symmetric order i.e., CYYC as shown by each superpixel 124 of the last row).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Askeland et al. (U.S. 6,254,217) in view of prior art of record to Matsufuji et al. (U.S. 4,593,295)

Askeland teaches the printing method and printheads arrangement except for said printheads being arranged in alternately symmetrical with respect to the nozzle color.

Matsufuji teaches the same ink printing method and print apparatus with printheads being arranged in alternately symmetrical with respect to the nozzle color. It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the printhead arrangement of Matsufuji in Askeland printing process since the purpose of Matsufuji process is also to eliminate hue effect.

6. Claims 4-7, 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Askeland et al. (U.S. 6,254,217) in view of Fujita et al. (U.S. 5,907,332)

Askeland discloses the instant claimed subject matter except for expressly teaching the use of print buffer of the respective printhead.

Fujita (fig.2) suggests print buffers 105 for the CMYK printheads and the data controller 103 that typically used in common printers for reducing communication time thereby to increase printing speed.

As for data being distributed alternately and randomly. It is widely known in the art in view of the mask process implemented by Askeland that mask process can be processed in checker pattern, halftone, random as such process eliminate print nonuniformity and prolong the life of the nozzles.

Art Unit: 2861

Allowable Subject Matter

7. Claim 27 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Amendment

Applicant remarks regarding the order of ink applications is changed depending on the pixel areas is not claimed. Therefore, it is irrelevant whether Askeland's order of ink applications for each pixel is predetermined by the mask.

Moreover, in Askeland, the number of ink dot (volume) at the subpixel within the pixel area is varied to provide multi-level print image. (col.11, lines 4-14)

Contact Information

8. Any inquiry concerning this communication should be directed to examiner Thinh Nguyen at telephone number (571) 272-2257. The examiner can generally be reached Mon-Wed, Friday from 9:00A – 5:00P. Thursday at telephone number (703) 440-1447. The official fax phone number for the organization is (703) 872-9306.

The examiner supervisor, Stephen Meier, can also be reached at (571) 272-2149.

Any inquiry of a general nature or relating to the status of this application should be directed to the group receptionist whose telephone number is (703) 308-1782.



Thinh Nguyen
May 14, 2004

**Thinh Nguyen
Primary Examiner
Technology Center 2800**